

## CLAIMS

We claim:

1. A method, comprising:

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sharing a Bluetooth communications module between a primary processor system and a secondary processor system.

2. The method of claim 1, wherein sharing comprises:

routing Bluetooth communications between the primary processor system and the Bluetooth communications module via a sharing module; and

routing Bluetooth communications between the secondary processor system and the Bluetooth communications module via the sharing module;

wherein the sharing module does not modify software running on the primary processor system.

3. The method of claim 2, wherein sharing further comprises:

presenting the Bluetooth communications module as a slave device; and

presenting the primary processor system and secondary processor system as master devices to the Bluetooth communications module.

4. The method of claim 2, wherein sharing further comprises selecting whether to service Bluetooth communications either of the primary processor system or the secondary processor system.

5. The method of claim 2, wherein sharing further comprises:

converting all Bluetooth packets between a first transport mode and a second transport mode.

6. The method of claim 5, wherein the first transport mode includes a universal serial bus (USB), an RS-232 connection, Firewire, and mPCI; and  
wherein the second transport mode includes a universal serial bus (USB), an RS-232 connection, Firewire, and mPCI.

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7. The method of claim 1, wherein the communications module, the primary processor system and the secondary processor system are included in a notebook computer.

8. The method of claim 6, wherein the sharing module is integrated into the secondary processor system; and  
wherein the secondary processor system is a low-power computer system and the primary processor system is a main CPU/OS computer system.

9. The method of claim 6, wherein the sharing module is integrated into the secondary processor system, and the secondary processor system is a multi-function Bluetooth enabled device; and  
wherein the primary processor system includes a notebook, a tablet, a laptop, and a desktop computer system.

10. The method of claim 9, wherein the sharing module is integrated with a secondary controller of the secondary processor system.

11. The method of claim 6, wherein the sharing module is included in the primary processor system.

12. The method of claim 1, wherein the Bluetooth module communicates with one or more secondary Bluetooth devices.

13. The method of claim 2, wherein the sharing module communicates with a USB host controller and a Bluetooth controller.

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14. The method of claim 1, further comprising switching control between the primary processor system and secondary processor system, upon the occurrence of an event, wherein the event includes opening of a computer lid, receiving a data message by the first processor system, receiving a data message by the second processor system, closing a computer lid, and receiving a switch command.

15. A system, comprising:  
means for sharing a Bluetooth communications module between a primary processor system and a secondary processor system.

16. The system of claim 15, wherein sharing comprises:  
means for routing Bluetooth communications between the primary processor system and the Bluetooth communications module via a sharing module; and  
means for routing Bluetooth communications between the secondary processor system and the Bluetooth communications module via the sharing module,  
wherein the sharing module does not modify software running on the primary processor system.

17. The system of claim 16, wherein sharing further comprises:

means for presenting the Bluetooth communications module as a slave device; and  
means for presenting the primary processor system and secondary processor system as master devices to the Bluetooth communications module.

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18. The system of claim 16, wherein sharing further comprises means for selecting whether to service either Bluetooth communications of the primary processor system or the secondary processor system.

19. The system of claim 16, wherein sharing further comprises:  
means for converting Bluetooth data packets between a first transport mode and a second transport mode.

20. The system of claim 19, wherein the first transport mode includes a universal serial bus (USB), an RS-232 connection, Firewire, and mPCI; and  
wherein the second transport mode includes a universal serial bus (USB), an RS-232 connection, Firewire, and mPCI.

21. The system of claim 15, wherein the communications module, the primary processor system and the secondary processor system are included in a notebook computer.

22. The system of claim 20, wherein the sharing module is integrated into the secondary processor system; and  
wherein the secondary processor system is a low-power computer system and the primary processor system is a main CPU/OS computer system.

23. The system of claim 20, wherein the sharing module is integrated into the secondary processor system, and the secondary processor system is a multi-function Bluetooth enabled device; and

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wherein the primary processor system includes a notebook, a tablet, a laptop, and a desktop computer system.

24. The system of claim 23, wherein the sharing module is integrated with a secondary controller of the secondary processor system.

25. The system of claim 20, wherein the sharing module is included in the primary processor system.

26. The system of claim 15, wherein the Bluetooth module communicates with one or more secondary Bluetooth devices.

27. The system of claim 16, wherein the sharing module communicates with a USB host controller and a Bluetooth controller.

28. The system of claim 15, further comprising means for switching control between the primary processor system and secondary processor system, upon the occurrence of an event, wherein the event includes opening of a computer lid, receiving a data message by the first processor system, receiving a data message by the second processor system, closing a computer lid, and receiving a switch command.

29. A computer-readable medium having stored thereon a plurality of instructions, said plurality of instructions when executed by a computer, cause said computer to perform: sharing a Bluetooth communications module between a primary processor system and a secondary processor system.

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30. The computer-readable medium of claim 29, having stored thereon additional instructions, said additional instructions when executed by a computer, cause said computer to further perform:  
routing Bluetooth communications between the primary processor system and the Bluetooth communications module via a sharing module; and  
routing Bluetooth communications between the secondary processor system and the Bluetooth communications module via the sharing module;  
wherein the sharing module does not modify software running on the primary processor system.

31. The computer-readable medium of claim 30, having stored thereon additional instructions, said additional instructions when executed by a computer, cause said computer to further perform:  
presenting the Bluetooth communications module as a slave device; and  
presenting the primary processor system and secondary processor system as master devices to the Bluetooth communications module.

32. The computer-readable medium of claim 30, having stored thereon additional instructions, said additional instructions when executed by a computer, cause said computer to

further perform selecting whether to service either Bluetooth communications of the primary processor system or the secondary processor system.

33. The computer-readable medium of claim 30, having stored thereon additional instructions, said additional instructions when executed by a computer, cause said computer to further perform converting Bluetooth data packets between a first transport mode and a second transport mode.

34. The computer-readable medium of claim 33, wherein the first transport mode includes a universal serial bus (USB), an RS-232 connection, Firewire, and mPCI; and wherein the second transport mode includes a universal serial bus (USB), an RS-232 connection, Firewire, and mPCI.

35. The computer-readable medium of claim 35, wherein the communications module, the primary processor system and the secondary processor system are included in a notebook computer.

36. The computer-readable medium of claim 34, wherein the sharing module is integrated into the secondary processor system; and wherein the secondary processor system is a low-power computer system and the primary processor system is a main CPU/OS computer system.

37. The computer-readable medium of claim 34, wherein the sharing module is integrated into the secondary processor system, and the secondary processor system is a multi-function Bluetooth enabled device; and  
~~wherein the primary processor system includes a notebook, a tablet, a laptop, and a desktop~~  
computer system.

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38. The computer-readable medium of claim 37, wherein the sharing module is integrated with a secondary controller of the secondary processor system.

39. The computer-readable medium of claim 34, wherein the sharing module is included in the primary processor system.

40. The computer-readable medium of claim 29, wherein the Bluetooth module communicates with one or more secondary Bluetooth devices.

41. The computer-readable medium of claim 30, wherein the sharing module communicates with a USB host controller and a Bluetooth controller.

42. The computer-readable medium of claim 29, having stored thereon additional instructions, said additional instructions when executed by a computer, cause said computer to further perform switching control between the primary processor system and secondary processor system, upon the occurrence of an event, wherein the event includes opening of a computer lid, receiving a data message by the first processor system, receiving a data message by the second processor system, closing a computer lid, and receiving a switch command.



43. A apparatus, comprising:

a Bluetooth sharing module;

a Bluetooth communications module connected to the Bluetooth sharing module;

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a primary processor system connected to the Bluetooth sharing module; and

a secondary processor system connected to the Bluetooth sharing module,

wherein the Bluetooth sharing module is configured to allow the primary processor system and secondary processor system to share a host controller of the Bluetooth communications module.

44. The apparatus of claim 43, wherein the sharing module

routes Bluetooth communications between the primary processor system and the Bluetooth communications module via a sharing module;

routes Bluetooth communications between the secondary processor system and the Bluetooth communications module via the sharing module; and

does not modify software running on the primary processor system.

45. The apparatus of claim 44, wherein the sharing module

presents the Bluetooth communications module as a slave device; and

presents the primary processor system and secondary processor system as master devices to the Bluetooth communications module.

46. The apparatus of claim 44, wherein the sharing module selects whether to service

Bluetooth communications either of the primary processor system or the secondary processor system.

47. The apparatus of claim 44, wherein the sharing module converts all Bluetooth packets between a first transport mode and a second transport mode.

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48. The apparatus of claim 47, wherein the first transport mode includes a universal serial bus (USB), an RS-232 connection, Firewire, and mPCI; and wherein the second transport mode includes a universal serial bus (USB), an RS-232 connection, Firewire, and mPCI.

49. The apparatus of claim 43, wherein the sharing module, the primary processor system and the secondary processor system are included in a notebook computer.

50. The apparatus of claim 48, wherein the sharing module is integrated into the secondary processor system; and wherein the secondary processor system is a low-power computer system and the primary processor system is a main CPU/OS computer system.

51. The apparatus of claim 48, wherein the sharing module is integrated into the secondary processor system, and the secondary processor system is a multi-function Bluetooth enabled device; and wherein the primary processor system includes a notebook, a tablet, a laptop, and a desktop computer system.

52. The apparatus of claim 51, wherein the sharing module is integrated with a secondary controller of the secondary processor system.

53. The apparatus of claim 48, wherein the sharing module is included in the primary processor system.

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54. The apparatus of claim 43, wherein the Bluetooth module communicates with one or more secondary Bluetooth devices.

55. The apparatus of claim 44, wherein the sharing module communicates with a USB host controller and a Bluetooth controller.

56. The apparatus of claim 43, wherein the sharing module switches control of the Bluetooth controller between the primary processor system and secondary processor system, upon the occurrence of an event, wherein the event includes opening of a computer lid, receiving a data message by the first processor system, receiving a data message by the second processor system, closing a computer lid, and receiving a switch command.

57. An apparatus, comprising:  
a universal serial bus (USB) hardware interface;  
a Bluetooth sharing module coupled to the universal serial bus hardware interface; and  
a UART hardware interface coupled to the Bluetooth sharing module.

58. The apparatus of claim 57, wherein the Bluetooth sharing module includes:

a UART serial driver to receive and send Bluetooth data packets with the UART hardware interface; and

a USB function driver to receive and send the Bluetooth data packets with the USB hardware interface.

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59. The apparatus of claim 58, wherein the USB function driver includes a protocol translator to translate between USB and UART.

60. The apparatus of claim 59, wherein the sharing module shares a Bluetooth communications module between a primary processor system and a secondary processor system.